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Barriers to educational technology at high school level in Kolasib district (Mizoram)

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Abstract

The present investigation is intended to study the barriers to educational technology at high schools of kolasib district, Mizoram state. The professional development is based on educational technology is for teachers and the students for better of their education. The scale of barriers is constructed. Samples from 100 high schools teachers with normative survey and purposive sampling method. of statistical techniques were applied to draw the result. The personal variables were studied with respect to gender, educational qualification of the teacher., locality of the teacher and marital status of teaches were analysed with regard to the barriers like Psychological, Administrative, Teaching Technique, and Materials Barriers to Educational Technology. A significant difference was found in locality and educational qualifications. No difference was found in gender and marital status of the teachers.

Keywords: Barriers, Educational technology, High school teacher, professional development, Kolasib(Mizoram)

Introduction

The need for teacher development is vital in an environment where educational goals for schools, teachers and students are high. Teachers are expected to help students become critical, constructive thinkers who have developed thorough conceptual understandings (Borko & Putnam, 1998). Students are required to synthesize information, solve problems, invent new ideas, create models, and explain themselves with confidence and proficiency. Classrooms are viewed as places where rich discourse should take place as students engage in their work and explore problems with meaningful contexts.

Educational Technology

1. Educational Technology is "a complex, integrated process involving people, procedure, ideas, devices and organization, for analyzing problems and devising, implementing, evaluating and managing solutions to those problems involved in all aspects of human learning".
2. Educational Technology provides the means to reach large numbers in remote and inaccessible areas, remote disparity in educational facilities available to the disadvantaged and provide individualized instruction to learners conveniently suited to their needs and pace of learning.

Kinds of barriers to educational technology

There are many kinds of barriers in the field of Educational Technology, They can be classified under following heads.

1.Psychological Barriers
2.Administrative Barriers
3.Teaching – Techniques Barriers
4.Material Barriers

The traditional approach to teaching is a long-established style and is especially prevalent in schools amongst older teachers who were taught, and have long been teaching in this manner (Goos, 1999; Sakonidis, Tzekaki & Kaldrimidou, 2001; Thompson, 1992). It consists of the mastery of concepts and procedures as the ultimate goal of instruction and places little emphasis on the processes of geography , or on the knowledge that comes out of geographical problem situations. There is therefore a strong contemporary need for teacher development.

Need and significance of the study

Educational Technology in the capacity of technology of education provides valuable help in the total teaching – learning process for achieving the best possible results in an economic way through the available human and non – human resources. In this respect, the major objectives of educational technology can be summarized as given below:

1. To identify and analyse the characteristic and educational needs of the pupil.
2. To determine the specific class room objectives and state them in behavioural aspects.
3. The analyse the contents of instruction and organize it in proper sequence.
4. To identify the available teaching – learning material and sources.
5. To identify the nature of the interaction of the subsystems like students, teachers, teaching – learning material, content of instruction and methodologies.
6. To plan the teaching strategies and utilize the non – material resources for the attainment of specific class room objectives.

In short, educational technology in its wide sense as understood today includes "the development, application and evaluation of systems techniques and aids in the field of teaching and learning". As such its scope encompasses educational objectives, media and their characteristics, criteria for selection of media and resources, management of resources, as well as their evaluation.

The growing use of educational technology in today's school has helped to release the teacher from the routine role of information giving so that they can devote his time and effort to the more important task of planning, arranging and evaluating the teaching, learning experience and outcomes and of encouraging, enthusing, guiding and counseling pupil. The various technological media are used to communicate the needed factual information to pupils and they are capable of doing this, pupils acquire knowledge through the various media and behavioural changes via the teacher. Another noticeable trend is the creation of multi-media learning environments in the class room, which involve the use of a variety of inter related learning experiences. This implies "the selection and use of appropriate sequences of interlinked A.V. or instructional media learning experiences which reinforce and strengthen one another in furthering the progress of the learner".

Statement of the problem

A teacher with skill of handling educational technology, in depth knowledge in the subject matter, ability to teach the concepts according to the mental ability of the students, with interest to acquire new knowledge and to contribute the innovative ideas related with his profession will perform his duty effectively. So the investigator has determined to undertake a research work on "Barriers to educational technology at high school level in Kolasib (Mizoram)".

Review of related literature

Sprinthall & Thesis-Sprinthall, (1996) Professional development research suggests that teachers' opportunities to learn about education technology during traditional professional development activities are often lacking. Often described as an important vehicle for school reform, professional development activities in general have been widely criticized for being relatively ineffective.

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In recent years, policymakers have recognized that teachers and administrators need resources and organizational capacity to implement instructional reforms on Education and Technology. For example, teachers ability and willingness to use computers and the Internet may depend, to some extent, on the schools and classrooms in which they work. Specifically, certain characteristics of classrooms and schools, such as equipment, technical assistance, and leadership may act as either barriers or facilitators of technology use.

Roberta Key (1996) carried out his study on an identification of barriers to the integration of information technology as perceived by Secondary Education, teacher students. Barriers were identified in three major themes:

(a) Inadequate instruction
(b) Inadequate computer system and
(c) Frustration

The study concluded that although many barriers were encountered, the majority of the students said they enjoyed using faculty and staff development policies, improving the computer system and computer laboratory operations.

Coley (1997), stressed the fact that Over the past two decades modern technologies have transformed many aspects of American life including how we communicate, how we spend our free time and especially how we work. As American life and workplace demands have changed as a result of this "technological revolution", so have conceptions of the skills and knowledge children will need to become successful adults and the relevant educational experiences they should encounter while attending school. As a result, technology, specifically in the form of computers and the Internet has become a major focus of education policy and reform in recent years. National, state, and local initiatives have provided schools with computer hardware and software, allowed schools and classrooms to connect to the Internet, and supported technology focused professional opportunities for teachers.

Zehr (1997), in his brilliant analysis quoted that the barrier to the implementation of classroom computer technology, is that even when provided with quality technology training, teachers lack the necessary preparation time to practice and implement the new ideas and techniques they have learnt.

As per the study conducted by Kook (1997), teacher resistance in computer use, then, can be termed is teacher resistance to the new role computer technology seems to require to the learners, whereas drill and practice software does not affect the traditional student – teachers relationship, open-ended student problem solving using computers thus.

Richards (1997), a professor in the gratitude program for school administrator at Teachers College, Columbia University, New York in his study reported that 5 percent of principals nationwide are fluent in the basis of word processing, spread sheets, and presentation software. He says "principals, on average, are 50 years old. We've got a generation of people who are actually barriers to the infusion of technology in school systems and are afraid of it themselves".

Kook (1997) in his analysis of the educational technology literature indicates that although a significant start has been made, there are still serious barriers to the widespread adoption of the type of student centered, real world, technology information society requires. These barriers include:

1. Lack of tools to measure the types of benefits that technology provides to students.
2. Inadequate implementation of educational technology in colleges of education.
3. Teacher resistance to the new roles required of them by educational technology.
4. Inadequate funding, time and support for in-service teacher training.
5. Educational administrators who resist change and are unwilling to share leadership responsibilities with teachers.
6. Mixed signals from a public that wants computer technology in the schools but doesn't want the traditional teacher student relationship to change.

Andrew Litchfield (1998) carried out a study on "Educational Technology: Support issues and Barriers" in his findings, the pilot Educational technology service ran from May 1996 to December 1997 and offered support to the planning and evaluation phases of the educational resource development cycle. The paper details the background and support strategies developed by the ETS Service.

Berge (1998) in his findings states that to prepare for success in the workplace, children need to become independent critical thinkers while also learning to work collaboratively in teams. They must learn to find information, manipulate it, and effectively express their own ideas and the ideas of the people. The use of Educational Technology, particularly for online teaching and learning, has been recognized as helping people, young and old, in these areas of their learning.

Byrom (1998), emphasized that, another important resource for the development of teacher expertise in the use of education technology is technical assistance. A full-time computer coordinator, for example, may assist teacher with using computer software and hardware or adapting their teaching practice to include computer or Internet use. However, according to one study, less than 5 percent of all schools have such a staff member. Further more, where they are present, computer coordinators typically spend a significant amount of time teaching students and much less time assisting teachers.

Becker (1998) concluded that the Principal leadership has been described as one of the most important factors affecting the effective use of technology in classrooms. Principals who exhibit leadership are instrumental in modeling the use of technology in classrooms. They understand how it can support best practices in instruction and assessment and provide teachers with guidance for its use. Principals may also participate actively in professional development activities related to education technology and provide teachers with opportunities to learn how to use these resources.

FRSS Survey (1999): In 1999, the barriers to the use of computers and the internet for instruction most frequently reported by public school teachers were-not enough computers (78 percent), lack of release time for teachers to learn how to use computers or the Internet (82 Percent), and lack of time in schedule for students to use computers in class (80 percent). Among the barriers most frequently reported by teachers to be "great" barriers to their use of computers or the internet for instruction in 1999 were – not enough computers (39 percent), and lack of release time for teachers to learn how to use computers or the internet (37 percent).

Becker (1999) clearly stated that the, existing research on education technology includes a small number of national studies that describe teachers' use of technology, as well as their training to use these tools. Specifically, this research suggests that most current and past uses of education technology have typically supported traditional notions of teaching and learning. For example, in the early 1980s, students more often used computers for drill and practice. Typically, drill-and-practice software consists of sequences of worksheet-style questions that automatically adjust their difficulty to match individual students responses. Also, in the early 1980s teachers typically used computers for content-related instruction. Students were more likely to learn about how to use computers at school than they were to use computer to learn about mathematics or social studies.

Lynn Feist (2003), Stated that professional development in education has been described as an organized effort to change teachers with the expected result of improving their teaching practice and student learning 1986), Unfortunately, professional development initiatives have been criticized for their failure to produce significant changes in either teaching practice or student learning.

Film has been identified as an effective teaching aid that can help bridge the gap between the orderly, predictable world of the classroom and the complex, unpredictable world of social work practice (Hudock and Gallagher Warden, 2001; Downey et al., 2003; Irizarry and Roach, 2007). Films have several advantages over case examples: their content is usually more complex and information-laden; they generally show the progression of events over time; and they allow students to observe characters in a living environment. They thus better enable students to understand the relationships among events and their interactions with the society (Downey et al., 2003).

Focusing on higher education, Henkel (2005) revealed internalized values of faculty through her research on academic identity. The disciplinary community is a dominant influence (Clark, 1987; Becher 1981). Other elements of importance include the high autonomy

inherent in faculty positions and the significance of research for the formation of identity (Henkel, 2005). However, not only faculty but also students and administrators take specific roles, as they interact predominantly with peers and in doing so form strong subcultures, too (Beyer, 1997)

Sezgin, Ferudun (2009) attempted a study on Examining the Relationship between Teacher Organizational Commitment and School Health in Turkish Primary Schools .Results of the study are discussed in relation to developing the organizational health of schools and improving the organizational commitment of teachers.

Oby, Douglas E. (2009) made a study on Teacher Perceptions of Levels of Professional Contribution to the School. An analysis of the survey results indicated that levels of contribution fluctuated. Variables affecting contribution levels included, but were not limited to political climate, self-perception, morale, leadership style, knowledge base, teamwork, and having a definite purpose or mission. Seventy teachers were involved in the study, working full-time, with the majority being females working in public elementary schools in rural, suburban, and city school systems in Ohio.

Sutherland, Louise; Howard, Sarah; Markauskaite, Lina (2010) made a study on the Professional Identity Creation: Examining the Development of Beginning Preservice Teachers' Understanding of Their Work as Teachers. Findings of the study is the construct, a teachers' voice, was investigated by examining changes in pre-service teachers' contributions in an online discussion forum. Two complementary approaches of content analysis were applied. Both methods revealed changes in pre-service teachers' levels of engagement and showed that in the first semester of pre-service teacher education, the majority of pre-service teachers moved towards a more professional stance in their contributions.

Objectives of the study

1. To study the psychological, administrative, teaching techniques and material barriers to educational technology with special reference to Kolasib District.
2. To study the influence of gender with regard to psychological, administrative, teaching – technique and material barriers to educational technology.
3. To study the influence of locality of school with regard to psychological, administrative, teaching – techniques, and material barriers to educational technology.
4. To study the influence of the Educational Qualification with regard to psychological, administrative, teaching techniques and material barriers to educational technology.
5. To study the influence of marital status with regard to psychological, administrative, teaching – techniques and material barriers to educational technology.

Methodology

Method

Normative survey method was adopted in this study.

Sample

The present study includes the High schools in Kolasib District of Mizoram state. There are about 50 High Schools in the District but selected 25 schools were taken for the study.

Tools

The following tools were used in the study.

1. Scale of barrier to educational technology consist of 20 questions in each section 5 questions which was constructed and validated by the investigator.
2. The personal data sheet was used to collect information about gender, locality, qualifications and marital status of the teachers.

Data analysis

Descriptive statistics were used to describe the sample with reference to the variables taken for the study. In differential analysis, the significance of difference between groups was studied using't' test.

Analysis, interpretation and findings

Table: Barriers to educational technology with reference to gender, location , educational qualification and marital status of the teacher.

Group		N	Mean	Std. Deviation	t –Value	P
Gender	Male	76	159.88	21.68	0.195 NS	0.846
	female	24	158.36	21.26		
Locality of the	Urban	76	160.78	20.87	2.509**	0.012
school	Rural	24	154.68	22.28		
Educational qualifications	With B.Ed	37	161.64	20.60	3.421**	0.001
	Without B.Ed	63	154.10	22.13		
	Married	61	157	23.1	0.192 NS	0.94
Marital status	Unmarried	39	153	23.92		

** significant-at 0.01 level

1)The 't' value is not significant at 0.05 level for male and female teachers. It is concluded that the male and female teachers do not differ in term to Educational Technology.

2)The calculated 't' value is significant at 0.01 level of significance. It is concluded that Rural and Urban respondents differ in term barriers to educational technology.

3) The calculated 't' value is significant at 0.01 level of significance. It is concluded that various groups of Teachers educational qualification differ in term to educational technology.

4) The calculated 't' value is not significant at 0.01 level of significance. It is concluded that the married and unmarried respondents do not differ in term of barriers to educational technology.

Educational Implications

1. The study reveals that there is significant relationship between the urban and rural teachers. Therefore it is an alarming result that the policy makers, teachers, Head masters and education department have to take suitable action to improve the rural teachers in supplying of adequate materials.
2. In general arranging periodical professional development programs, refresher courses and pooling the staff with subject wise experts for the seminar and workshops will help them to acquire the new skills and new technique to adopt and also if the government makes policy for encourage and allowing to take up higher degrees with paid leave specially aided and private schools concern.

Recommendations

1. The education department should encourage the staff to acquire higher degrees. It will help to enhance the utilization of educational technology materials required for their teaching.
2. Arranging periodical professional development programs, refresher courses and pooling the staff with subject wise experts

for the seminar and workshops will help them to acquire the new skills and new technique to be adopted.

3. Establishing University resource center to cater the school teachers for psychological and professional counseling.

4. Subject experts should be selected and made available all-round the year which displayed in each District education offices and the schools to utilize the teachers.

5. Financial assistance may be given to the teachers to undertake action research and projects related to teaching –learning process.

Conclusion

In present scenario, educational technology has unique place to improve the education in all levels. Attitudinal changes can be installed in the mind of teachers through eradicating the barriers on psychological, administrative, teaching technique and material barriers to Educational Technology in the class room to achieve the competency, so that the Technology assist to improve the comprehension of the students through participatory approach. Creating enthusiasm on using educational technology is necessary to decrease the drop-out and stagnation with the help of using educational technology may acquire fruitful success and self learning can be improved through educational technology and reduce the boredom of the students in learning process.

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